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मानक

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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

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IS 11122-4 (1984): Specification for Letterpress Printing Plates and Equipment, Part 4: Jobbing Chases [MED 25: Printing Machinery]



“ज्ञान से एक नये भारत का निर्माण”

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“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard



SPECIFICATION FOR
LETTERPRESS PRINTING PLATES AND EQUIPMENT
PART 4 JOBBING CHASES

1. **Scope** — Specifies dimensions and certain technical requirements for printers' jobbing chases.

2. **Definition**

2.1 **Chase** — A rectangular frame within which type matter, etc, is locked up by means of expanding devices (known as 'quoins') so that the complete forme can be safely transported to storage, or to the machine, and held secure.

3. **Material** — Printers' jobbing chases shall be made from steel which is free from lamination and other defects and whose chemical and mechanical properties approximate to those specified for steel to designation 20C8 of IS : 1570 (Part 2)-1979 ' Schedule for wrought steels for general engineering purposes : Part 2 Carbon steels (unalloyed steels) (*first revision*) '.

Note — It is not intended that this clause should lay down strictly the requirements for the material, but if steel 20C8 is not readily available it is suggested that reference be made to IS : 1570 or to other specifications for steels whose chemical composition and mechanical properties approximate to those 20C8. Considerable departure from the characteristics of 20C8 may result in an unsuitable material being used both from the point of view of mechanical properties and of difficulties in welding.

4. **Dimensions and Tolerances** — See also Appendix A.

4.1 **Height** — 15, 17.5 and 19 mm with a tolerance of + 0.2 mm.
— 0.0

4.2 **Width**

<i>Internal Length of Side of Chase</i> mm	<i>Minimum Width</i> mm
Up to 450	20
Over 450	25

5. **Accuracy of Corners**

5.1 The upper face of the chase shall be indicated by an 'O' in the most accurate corner shown in Fig. 1.

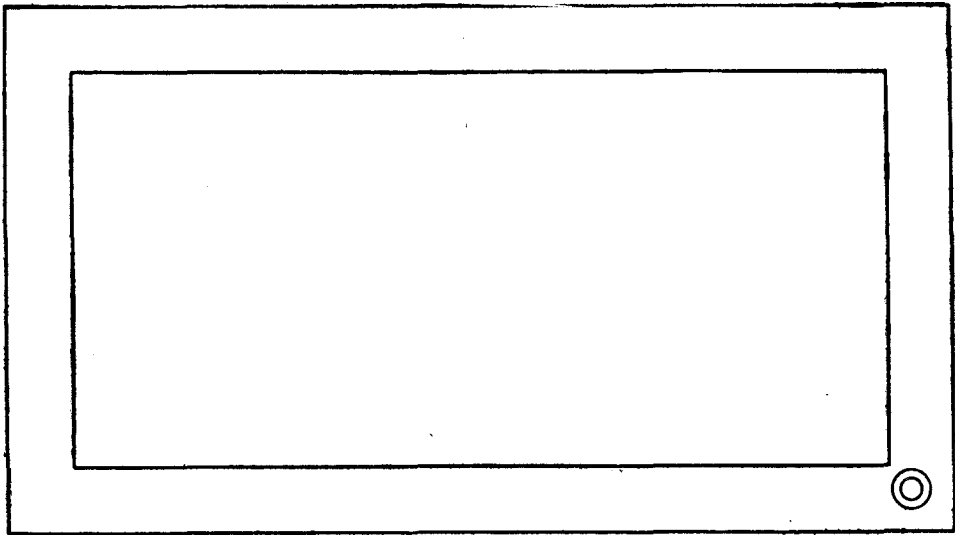


FIG. 1 MARKING OF JOBBING CHASE

5.2 The adjacent sides of at least one corner shall be square with an accuracy of 0.08 mm in a 300 mm length and the vertical of the two bars which form this corner shall be as square as commercially possible.

6. **Flatness** — When completed, the chase shall be gauged for flatness by passing a feeler gauge between its underside and a Grade A surface plate or its equivalent; all corners shall bed-down flat and any upward curve of the rims shall not exceed 0.10 mm.

APPENDIX A

(Clause 4)

HEIGHT AND WIDTH OF JOBBING CHASES

A-1. Printers have long been concerned about the tendency for the sides of printers' chases to deflect when the forme is locked up. While it had been felt that the amount of deflection could be restricted by strengthening the cross-section of the side, no detailed technical information had been available on which to base any specific recommendations. A force was measured that could be applied by a quoin in calculating the width of the bar of chases required to restrict the deflection to a value of 0.50 mm under certain assumed conditions of use.

The calculation were made for a steel chase with a height of 19 mm, and the load applied by a quoin was assumed to be 5 kN concentrated at a point. It was also assumed that the quoins were equally spaced along the chase side (see Table 1) and that the side deflected as a beam with built-in ends. The calculations took account of intermediate tension bars or slots provided for them.

TABLE 1 ASSUMED LOADING CONDITIONS AND CHASE WIDTHS REQUIRED

Chase Section for Load per Quoin of 5 kN Height of Chase 19 mm.

Length of Side	No. of Quoins	Distance from End to First Quoin or Between Quoins	Width of Side
mm		mm	mm
290	1	146	16
460	2	152	28
580	4	117	43
910	4	183	66
1 170	4	234	86
1 830	4	368	135

For practical reasons, widths above 44.5 mm quite unsuitable for use on a printing machine and it is, therefore, necessary to reach some compromise.

In practice, the larger sizes of chases are almost invariably used with cross bars. This reduce the unsupported length of side of the chase and thus reduces the deflection which is likely to occur. In view of this, a minimum width of 44.5 mm is specified for all chases with sides longer than 460 mm. This width should provide adequate strength for chases with sides between 460 and 580 mm long. It will also be adequate for chases with sides up to 1170 mm long if the length of unsupported side is reduced by the use of at least one cross bar.

It is recommended that crossbars should have a width of three 12 point ems (18 mm). They should be straight and form a true right angle to the base of the chase.

It is felt that the widths specified provide a satisfactory standard for all normal circumstances. If, however, a printer is consistently using chases with only a small length of unsupported side, it may be economic to use special chases with a correspondingly reduced width.

EXPLANATORY NOTE

This part of the standard lays down requirements for jobbing chases.

This standard is being issued in the following four parts:

- Part 1 Original printing plates
- Part 2 Flat metal duplicate plates
- Part 3 Galleys
- Part 4 Jobbing chases

While preparing this standard assistance has been derived from BS 4946 : Part 4 : 1973 'Specification for letterpress printing plates and equipment: Part 4 Jobbing chases'.